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AUTHOR Snyder, Janie H.; West, Russell F.
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ABSTRACT

This study examined the impact of grade repetition or retention on the subsequent academic performance of students in rural and urban areas in northeast Tennessee. A total of 40 students who were retained in grades 3 or 5 during the 1985-1986 school year, and 70 students who were not retained, completed the Stanford Achievement Test yearly between 1986 and 1989. Results indicated that: (1) students who were retained showed an increase in their achievement scores the second year they were in their retained grade; (2) the increase in achievement scores diminished the following year; and (3) in the third year after retention, there was no difference between the achievement scores of students who were retained and students who were promoted. Results also indicated no differences in the effects of retention for students in urban and rural schools. Nine data tables are included. (Contains 18 references.) (PM)

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The Effects of Retention In Elementary School On Subsequent Academic Performance

Janie H. Snyder & Russell F. West

East Tennessee State University

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Abstract

The purpose of this study was to examine the impact of retention on the academic performance of students. A follow-up study was used to scrutinize changes in academic test results. Forty retained students of Northeast Tennessee were matched according to sex and similar scaled scores on the Stanford Achievement Test. Scores were compared by grade and by year from 1986 through 1989. Findings indicated there were no statistically significant differences in test scores for students who had been retained verses students who had been promoted two years after the retention occurred.

The Effects of Retention in Elementary School on Subsequent Academic Performance

Much concern has been generated about the effects of retention on the academic success of students in school. Retention refers to the practice of requiring a student who has been in a given grade level for a full year to repeat the same grade level the following year (Jackson, 1975). Palardy (1984) stated that decisions about whether to promote or to retain students have been based on the answer to one of three questions: "How are students achieving in comparison to the others in class?" "How are they achieving in relation to predetermined standards?" or "How are they achieving in terms of their own unique abilities?" (p.403). These questions seem to evolve around norm-referenced test results, criterion-referenced test results and whether students seem to be performing up to their potential.

There are professional differences of opinion regarding the effects of retention. According to Koons (1977), promoting students to the next grade when they lack prerequisite skills does not necessarily deny them opportunities to learn. Jackson (1975) stated educators favor retention for two major reasons: "to remedy inadequate academic progress and to aid in the development of students who are judged to be emotionally immature." (p.614)

Bossing (1980) stated the decision to promote or retain is influenced by many factors and that general education philosophies impact this procedure. Philosophies are constantly changing, which adds additional conflict.

Historically, the earliest schools in the United States did not categorize students into grade levels. Students recited lessons individually, passed to harder material when ready and graduated after the teacher or special school examiner gave a test that was usually oral and often individual. As free public education spread, high schools appeared in the late 1840s and the demand for better grouping of entering students arose. This was based on the industrial model where division of labor was seen as more efficient. Grade levels replaced the traditional grouping system. Each grade came to have its own teacher and its own room. By the 1900s all but the most rural schools were divided into grade levels, with students moving through the grades where definite standards determined who passed and who failed. At the beginning of this century up to 50% of the total enrollment in many districts had been retained at some time in their educational experience. (Chandler, 1984)

Bucko (1986) stated "as recently as the 1950s, it was not uncommon to find a student of age 14 in the fourth or fifth grade, depending on the number of times he or she was retained. Today, retention of a student in more than one grade level is rare" (p.9).

Moran (1988) estimated that 20 to 25% of students have been retained at least one time. He used information provided by the Census Bureau to make this prediction. Rather than gathering retention rates, the Bureau estimated the percentage of students who were below the modal grade for their age. Retention rates rose between 1978 and 1983 for this age group.

Natale (1991) indicated there was a growing viewpoint that student retention was more harmful than helpful. Holmes (1989) conducted a meta-analysis of 63 studies on retention. He found largely negative effects for retention and concluded "retained children were worse off that than their promoted counterparts on both personal adjustment and academic outcomes" (p.27). Rose (1983) reported a summary of results from 25 studies on the effects of retention on school achievement. "On the average, promoted pupils make gains of eight to 12 months in a year while retained pupils make gains of only about six months" (p.206). Approximately 85% of promoted students as compared to 35% of nonpromoted children are found to be achieving at a normal rate.

Mantizicopoulos and Morrison (1992) employed a design that compared matched kindergarten students in two ways "(a) within the same year (or same-age group) and (b) within the same grade" (p.184). They explored both academic and behavioral effects of kindergarten retention with a group of retained and promoted students through the end of second grade. Thirty-five children retained during 1985-86 and 18 children retained during 1986-=87

were matched with 53 promoted peers. Retained and promoted students were the same age, but the promoted peers were one grade level ahead of the retained group. For the same grade comparisons, retained and promoted students were in the same grade but the promoted students were one year older. Same age comparisons revealed the retained children scored almost a standard deviation above the mean during their second year in kindergarten. This advantage disappeared as soon as they entered first grade. First grade test scores were identical to those of the promoted group. The results were true for reading and math. Same-grade comparisons on both reading and math found a pattern similar to that of same age comparisons. Retained students scored significantly higher during their second year in the same grade "($F = 58.78$ and $F = 19.06$, $p<.0001$ for reading and math respectively)" (p. 191). This advantage did not continue during the first grade or second grade.

According to Balow (1990) arguments concerning retention and promotion usually ignore the fact that neither action results in dramatic increases in the achievement. "When low-achieving pupils are retained, they remain low achievers--when promoted they continue to be low achievers. Neither retention nor promotion is beneficial to the pupils or to the school, if not accompanied by effective programmatic interventions" (p.11).

The purpose of this study was to examine the impact of retention on the subsequent academic performance of students retained in the third and in the fifth grades during the 1985-86

school year. A retrospective follow up study was used to scrutinize changes in academic test results after a retention had taken place.

Method

Subjects and Procedures

The rural systems targeted were the Unicoi County Schools and the Carter County Schools. The city systems included the Johnson City Schools and Bristol City Schools. Data was collected on students who were retained in grade three and grade five during the 1985-86 school year. These students were labeled "retained students" for the purpose of this study. Data were also collected on a matched group of students in those grade levels who were not retained. These control groups were labeled "promoted students." One group of third grade students was matched according to the subtest scores of reading comprehension on the Stanford Achievement test and on gender. A second group of third graders was matched based on scores on the total math portion of the Stanford Achievement Test and on gender. Data were collected on a third group matched in the areas of spelling and gender. Scaled scores were used for the matching. The matched scores ranged within six points of the scaled score of the retained student. The same strategy was used to match fifth grade students.

The third grade cohort consisted of 24 students who were retained and 70 students whose scores were matched to those who were retained. Seven students were retained in Unicoi County. Their scores were matched with 20 students from that county in the areas of reading comprehension, spelling, and total math. Eleven students were retained in Carter County. Their scores were matched with 32 students in Carter County. Johnson City had six students who were retained in third grade. Their scores were matched with 18 students from that system.

The fifth grade cohort consisted of 16 students who were retained and 46 students whose scores were matched in the areas of reading comprehension, spelling, and total math. Four students who were retained were from the city of Bristol. Their scores were matched with scores of 11 students from Bristol who had similar test results. Seven students were retained in Johnson City. Their scores were matched with scores of 21 students from that system. Unicoi County had four students who were retained. Their scores were matched with scores of 12 students from that county. One student from Carter County was analyzed with the retained group. Her scores were matched to results of two students from the Carter County School System.

Because the state of Tennessee's testing program during the 1985-86 school year was the Stanford Achievement Test (SAT), this information was used to compare levels of achievement of students. Scaled Scores, percentiles and normal curve equivalent (NCE) data

were collected on subtests of reading comprehension, total math, and spelling. Scaled scores were converted to percentiles and then to NCE scores.

A quasi-experimental research design was used to describe this retrospective follow-up study of test scores of students who were retained as compared to scores of students who were not retained. Since students were not randomly selected to participate in this study, the nonequivalent control-group design was used. Borg (1989) represented this design by the following diagram:

$$\begin{matrix} - & - & O & X & O & - \\ & & O & & O & \end{matrix}$$

The experimental treatment was represented by X. Pretest or posttest measurement of the dependent variable was represented by O, "and the broken line indicates that the experimental and control groups are not formed randomly" (Borg, 1989, p.690). The nonequivalent control-group design was characterized by the administration of a pretest and posttest to both treatment groups, and nonrandom assignment of students to a group.

The research design for this retrospective study can be represented by the following diagram:

Stanford Achievement Test Scores

	3rd grade	retention	4th grade	5th grade
Group 1	O	X	O	O
Group 2_1	O	no retention	O	O
Group 2_2	O	no retention	O	O
Group 2_3	O	no retention	O	O

	5th grade	retention	6th grade	7th grade
Group 3	O	X	O	O
Group 4_1	O	no retention	O	O
Group 4_2	O	no retention	O	O
Group 4_3	O	no retention	O	O

The treatment for group one and group three was considered to be retention in either the third or fifth grade. The pretest was the Stanford Achievement Test given in the spring of the retention year. Posttests were Stanford Achievement Tests given in the spring of the year students are enrolled in subsequent grade levels where the achievement test is administered. Subgroup one represented students who were matched for scaled scores on reading comprehension. Subgroup two represented matched students in the area of total math and subgroup three represented matched scores for spelling.

Another way to view the results of the study was to compare retained and promoted students in two ways using (a) same-age comparisons (see Figure 1) and (b) same-grade comparisons (see Figure 2). Same-age comparisons were made by comparing retained students with promoted students who were the same age, but took different forms of the Stanford Achievement Test.

Their performance was evaluated on different norm groups. For example, in the same-age comparison, the 1987 third grade scores of the retained group were compared to the 1987 fourth grade scores of the promoted controls. Same-grade comparisons were made when both

the retained and promoted groups were in grades three, four, and five for cohort one and grades five, six, and seven for cohort two, but the retained group was one year older.

Data Analysis

Group means were used to indicate the average score on the different tests. Individual NCE scores on the subtests of reading comprehension, total math and spelling were used for determining academic standing. The t-test for independent groups was used to test for initial differences in the demographic, social and academic characteristics of retained and promoted students.
A t-test for dependent groups was used to determine if significant differences occurred in the scores of retained students after retention as compared with scores before retention.

Same-age and same-grade comparisons were calculated through the use of analysis of covariance (ANCOVA) and analysis of variance (ANOVA). Each group of third grade students had taken a Stanford Achievement Test three (3) times from 1986 through 1989. The groups of fifth grade students had completed the Stanford Achievement Test three (3) times during the duration of this study. Comparisons were made to determine whether the retained group or the promoted group made more NCE gains over a period of three and two test applications. In addition, the gains of city and rural students were compared to determine if any differences existed.

Results

Since students selected for this study were matched according to test scores, gender, and by school system, no discrepancies were found in demographic and academic characteristics.

By using the statistical analysis of t-tests for dependent groups, SAT scores of students retained in third grade in 1986 were compared to results of their 1987, 1988, and 1989 test scores. Students who were retained scored statistically significantly higher in the area of reading comprehension, spelling, and total math the second year in third grade.

By 1989, test scores uncovered no statistically significant differences in any subtest analyzed. Significant differences were not found in reading comprehension, spelling, nor total math. This indicated that third grade students who were retained scored no higher in 1989 than they scored in 1986. Results indicated the treatment of retention did not significantly impact academic scores on the Stanford Achievement Test two years after retention.

Insert Table 1 About Here

The SAT scores of students retained in fifth grade during the 1985-86 school year were also compared to scores on the SAT administered in the spring of 1987, 1988, and 1989. Retained fifth graders made significant gains in all subject areas assessed in this study after the 1987 administration of the fifth grade SAT. Students enrolled in city systems continued to score statistically

significantly higher in spelling and total math on the 6th grade test given in 1988. However, by 1989, three years after the retention decision, students did not score statistically significantly different from the way they scored in 1986. The treatment of retention did not significantly impact academic success of fifth grade students who were retained in 1986 in Carter County, Unicoi County, Johnson City, nor Bristol, Tennessee.

Insert Tables 2 About Here

Third grade students who were retained in 1986 scored significantly higher in the areas of spelling and total math when they took the third grade test a second time as compared to their promoted peers who took the fourth grade SAT.

Insert Table 3 About Here

In 1988, scores revealed that students who had been retained in third grade scored statistically significantly higher in the area of total math than their promoted peers. The 1988 results compared the retained group in 4th grade and their promoted peers in fifth grade. Two years after a retention occurred, the retained third grade cohort scored statistically significantly higher in one of three subtests analyzed.

Insert Table 4 About Here

Using a same-grade comparison, students who were retained in third grade at the end of the 1985-86 school year scored

significantly higher than their promoted peers the second time they took the third grade test. This was true in reading comprehension, spelling, and total math. Fourth grade scores of the retained cohort as compared to their promoted peers were higher in all three subtests, but only statistically significantly higher in the area of total math. Fifth grade comparisons of these two groups yielded no statistically significant differences in the scores. Students who were promoted rather than retained at the end of the 1985-86 school year scored higher in all three subtests analyzed, however the difference was not statistically different. Looking at student achievement in terms of same grade comparisons for the third grade cohort, yielded no positive effects of retention on academic performance as measured by the Stanford Achievement Test.

Insert Table 5 About Here

Scores of the fifth grade cohort were also analyzed using a same-grade comparison. Findings indicated the fifth grade group that was retained scored significantly higher than their promoted peers in the area of spelling the second time they took the fifth grade version of the SAT. Sixth grade comparisons only included city school systems as rural systems chose not to administer the 6th grade version of the SAT. For the 6th grade scores analyzed, the retained group scored statistically significantly higher in the area of total math. The retained population had higher scores in reading comprehension, spelling, and total math after a second administration of the fifth grade test and on the sixth grade test.

The scores were not statistically significant except in the area of spelling for the fifth grade results of retained students and in the area of total math for the 6th grade results of the retained group. By seventh grade, the retained group scored higher in all three subtests analyzed, yet there were no statistically significant difference in the scores of promoted peers verses the retained cohort. Findings indicated there were no statistically significant difference in scores of seventh graders who were retained in fifth grade in 1986 and the scores of their peers who had similar scores in fifth grade, but were promoted. Scores of both groups were below the 50th NCE level which is considered the middle of average.

Insert Table 6 About Here

Using an analysis of covariance, a same-age comparison of third grade cohort scores in 1987 and 1988, while controlling for 1986 test scores was conducted for students in rural systems and students in city system. Findings indicated rural students who were retained had statistically significant higher scores the second time in third grade as opposed to the fourth grade scores of their promoted peers. Retained students in a city system scored statistically significantly higher in total math the second year in third grade as opposed to the fourth grade students whose scores were matched the previous year.

In 1988 the retained group was in the fourth grade and their promoted peer group was in the fifth grade. Rural students who

were retained scored significantly higher than their same age peers who were in the fifth grade in the areas of reading comprehension and total math.

Insert Table 7 About Here

The city system students showed no significant differences in their same-age scores of retained students in the fourth grade verses promoted peers who were in fifth grade. There was a large difference in mean scores of retained students over their promoted peers, with retained students scoring higher. Since a small sample size was analyzed, results were masked.

A same-grade comparison was conducted on rural and city system test scores for the third grade and fifth grade groups. Because the students who were retained were matched to a peer group that had similar test scores in 1986, but were promoted, third grade and fifth grade scores were similar for the first administration of the test. Findings for the third grade cohort revealed the retained students in rural systems scored statistically significantly higher on all subtests the second time in third grade, than their promoted peers had originally scored. Students who were retained in a city system scored statistically significantly higher in the area of total math.

Insert Table 8 About Here

Fourth grade comparisons indicated retained students in rural and city systems scored higher on all subtest than

their promoted peers. However, there were no significant statistical differences found.

By fifth grade, promoted peers in rural systems scored higher than the retained group on all subtests analyzed. The promoted group in the city system scored higher than their retained peers. There were no statistically significant differences found in any of the scores. This finding indicated an extra year in third grade was not beneficial academically, for students in city or rural systems three years after the retention decision was made.

Same-grade comparisons of the fifth grade cohort revealed retained students in city and rural systems scored higher in reading comprehension, spelling, and total math the second year of the fifth grade administration of the SAT, as compared to the scores of their promoted peers the previous year. The differences for city students who were retained were statistically significant in the area of total math. There were large mean differences favoring scores of retained students in rural and city systems, however, due to the small sample size scores were not statistically significant.

Insert Table 9 About Here

Seventh grade scores were compared for rural students and city students. Findings indicated students who were retained in Johnson City and Bristol scored higher on the reading comprehension, spelling, and total math sections of

the SAT than their promoted peers. However, scores were not statistically significantly higher for the nine pairs compared in reading comprehension and the 11 pairs compared in spelling and total math.

Students retained in rural systems scored higher than their promoted peers on the subtest of reading comprehension only. The promoted peers scored higher in spelling and total math, by the seventh grade comparison. No statistically significant differences were found in the results of the scores. By seventh grade there were only three pairs of rural scores to compare in the areas of reading comprehension and total math and only two pairs in the area of spelling. Scores of rural students who were retained and rural students who were promoted exceeded an NCE of 50 which is considered average.

Conclusions

The following conclusions were drawn based on this study.

1. Students who are retained have an increase in their achievement scores the second year they are in the same grade, however it diminishes the next year, and by the third year after the retention decision, there is virtually no difference in scores of students who were retained and those who were promoted.

2. The effects of retention appears to be similar in rural and city school systems.

3. Retention helps increase scores of students during one academic year, the second year in the same grade. This held true

when scores of retained students were compared the year of retention and subsequent years. It also was true when same grade and same age comparisons were made. The results were consistent for rural and city students. In the long run, the increase of scores for one school year was not

considered to be worth a year of a student's life when the positive effects did provide lasting benefits.

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Table 1

Comparison of 1986 Pre-Retention and 1989 Post-Retention Scores, by Subject, of Third Grade Students Who Were Retained During the 1985-86 School Year

Subject	n	1986 NCE	1989 NCE	Difference	t
Reading comprehension	16	36.57	43.98	+ 7.41	2.80**
Spelling	15	36.08	33.55	- 2.53	.97
Total math	16	41.47	43.86	+ 2.39	.77

** $p < .05$

Table 2

Comparison of 1986 Pre-Retention and 1989 Post-Retention Scores, by Subject, of Fifth Grade Students Who Were Retained At the End of the 1985-86 School Year

Subject	n	1986 NCE	1989 NCE	Difference	t
Reading comprehension	12	42.53	43.56	+1.03	.41
Spelling	13	37.78	44.10	+6.32	1.74
Total math	13	41.07	46.87	+5.80	1.55

** $p < .05$

Table 3
Analysis of Covariance Showing Same-Age Comparison of Third Grade 1987 NCE Scores, While Controlling for 1986 Scores

Variation Source	n	M	SD	df	ms	F
Reading comprehension:						
Retained	14	46.39	14.24	1	383.93	3.08
Promoted	14	39.15	10.30			
Spelling:						
Retained	13	51.65	13.22	1	1656.18	10.43 **
Promoted	13	35.58	17.58			
Total math:						
Retained	14	61.31	11.48	1	1096.69	20.21 **
Promoted	14	48.97	9.54			

** $p < .05$

Table 4
Analysis of Covariance Showing Same-age Comparison Of Third Grade 1988 NCE Scores, While Controlling for 1986 Scores

Variation Source	n	M	SD	df	ms	F
Reading comprehension:						
Retained	14	41.84	14.94	1	44.18	.56
Promoted	14	43.31	10.88	1		
Spelling:						
Retained	14	41.33	16.52	1	72.72	.45
Promoted	14	38.02				
Total math:						
Retained	14	52.09	15.50	1	843.48	6.90 **
Promoted	14	41.25	8.19	1		

** $p < .05$

Table 5
Same-grade Analysis by NCE Mean of Third Graders in the Areas of Reading Comprehension, Spelling and Total Math Over a Four Administrations of the SAT

	n	3rd86	n	3rd87	n	4th	n	5th
Reading comprehension:								
Retained mean	24	36.13	21	46.05	19	45.39	19	42.74
Matched mean	24	36.00	21	35.62	19	40.35	19	43.96
F		.002		7.36**		1.29		.09
Spelling:								
Retained mean	21	33.78	19	49.01	18	40.11	18	34.10
Matched mean	21	34.11	19	35.87	18	35.28	18	34.97
F		.01		10.27**		.74		.04
Total math:								
Retained mean	23	39.09	21	59.68	17	50.51	20	42.06
Matched mean	23	39.82	21	40.68	17	47.54	20	42.28
F		.05		26.22**		.41		.004

** $p < .05$

Table 6
Same-Grade Analysis of Fifth Graders by NCE in the Areas of Reading Comprehension, Spelling and Total Math Over Three Administrations for Rural Systems and Four Administrations for City Systems

	n	5th86	n	5th87	n	6th	n	7th
Reading comprehension:								
Retained mean	15	42.16	13	50.65	9	51.36	12	43.56
Matched mean	15	42.99	13	45.09	9	46.68	12	33.46
F		.05		1.34		.39		3.94
Spelling:								
Retained mean	15	36.95	14	47.65	11	48.35	13	44.10
Matched mean	15	37.11	14	38.04	11	46.43	13	41.52
F		.002		4.39**		.18		.20
Total math:								
Retained mean	16	41.42	15	52.75	10	61.65	14	46.35
Matched mean	16	42.14	15	42.19	10	38.49	14	44.03
F		.02		3.97		6.26**		.26

** $p < .05$

Table 7
Analysis of Covariance Showing Same-Age Comparison By Rural Verses City School Systems of Third Grade 1988 SAT Scores, While Controlling for 1986 (Covariate) Scores

Variation Source	n	M	SD	df	ms	F
Reading comprehension:						
Rural retained	10	36.92	10.33	1	317.09	7.76**
Rural promoted	10	42.93	12.42			
City retained	4	54.15	19.09	1	189.18	1.40
City promoted	4	44.28	6.99			
Spelling:						
Rural retained	10	41.45	15.71	1	27.59	.20
Rural promoted	10	38.70	13.31			
City retained	4	41.03	21.03	1	70.02	.17
City promoted	4	36.33	15.29			
Total math:						
Rural retained	11	51.20	12.96	1	551.52	4.71**
Rural promoted	11	41.35	8.52			
City retained	3	55.33	26.49	1	285.02	1.74
City promoted	3	40.87	8.50			

** $p < .05$

Table 8
A Same-Grade Analysis by NCE Mean of Third Graders in the Areas of Reading Comprehension, Spelling and Total Math Over Four Administrations of The SAT, By Rural Systems and City Systems

	n	3rd86	n	3rd87	n	4th	n	5th
Reading comprehension:								
Rural retained	18	35.89	15	46.75	15	43.06	15	41.94
Rural promoted	18	35.78	15	35.21	15	40.05	15	44.81
F		.001		8.20**		.46		.36
City retained	6	36.87	6	44.30	3	50.33	5	44.98
City promoted	6	36.65	6	36.65	3	50.17	5	41.56
F		.001		.63		.00		.15
Spelling:								
Rural retained	16	32.94	13	51.05	14	39.85	13	32.28
Rural promoted	16	32.81	13	34.11	14	33.50	13	33.23
F		.001		10.30**		1.08		.32
City retained	5	36.46	6	44.57	4	41.03	5	38.84
City promoted	5	38.28	6	39.70	4	41.53	5	39.48
F		.09		.65		.001		.005
Total math:								
Rural retained	18	39.64	15	57.13	14	49.47	15	40.88
Rural promoted	18	40.38	15	42.26	14	48.13	15	42.85
F		.04		11.18**		.08		.25
City retained	5	37.12	6	66.05	3	55.33	5	45.60
City promoted	5	37.78	6	36.73	3	44.80	5	40.56
F		.006		22.34**		.43		.31

** $p < .05$

Table 9
A Same-Grade Analysis by NCE Mean of Fifth Graders in the Areas of Reading Comprehension, Spelling and Total Math Over Three Administrations of The SAT, By Rural Systems and City Systems

	n	5th86	n	5th87	n	7th Grade
Reading comprehension:						
Rural retained	5	45.92	4	57.50	3	49.43
Rural promoted	5	45.92	4	49.33	3	33.90
F		.00		.59		2.57
City retained	10	40.28	9	47.61	9	41.60
City promoted	10	41.52	9	43.21	9	33.31
F		.10		.75		1.83
Spelling:						
Rural retained	4	31.10	3	48.63	2	30.30
Rural promoted	4	31.17	3	33.50	2	37.90
F		.00		1.62		.31
City retained	11	39.07	11	47.38	11	46.61
City promoted	11	39.27	11	39.27	11	42.17
F		.001		2.49		.48
Total math:						
Rural retained	5	51.42	4	60.95	3	51.73
Rural promoted	5	52.74	4	55.60	3	57.90
F		.03		.38		.32
City retained	11	36.87	11	49.77**	11	44.88
City promoted	11	37.32	11	37.32	11	40.25
F		.007		4.67		1.03

** $p < .05$